Municipal Roads General Permit (MRGP) – Paved Roads with Catch Basins (CBs) Road Erosion Inventory (REI) Supplement- January 2018

Use the following methodology for completing the REI and associated REI form C. for paved road segments with catch basins without drainage ditches (typically these road segments have curbs or water sheet flows from the road but no ditches are present). If road segments are paved with catch basins and have drainage ditches, use DEC's ***Road Erosion Inventory and Evaluation Form A: Paved and Gravel Roads with Open Ditches*** form. If a drainage system consists of both types you must use do both evaluations but only use the open ditch form for the segments with ditches. REI forms available at the MRGP website:

http://dec.vermont.gov/watershed/stormwater/permit-information-applications-fees/municipal-roads-program

- All municipalities will be required to evaluate connected CB outlets to determine compliance with MRGP Standards by December 31, 2020 as part of their road erosion inventory.
- Where a catch basin collection system exists within a roadway ditch system the Town must also comply with the road ditching standards of the MRGP as well as these requirements.

All Towns must complete the assessment tasks **A & B (1)** for their collected road segments. Maps of these segments will be provided to each Town[1] listed in Table 1.

(A) Assessment of directly connected road segments

Municipalities shall take the state maps of existing collected-road system segment outfalls and verify that these segments have catch basins and/or manholes and the final outfall pipe is 500 feet or less from a water of the state. These criteria would define the collection system subject to these standards. The Agency would need to concur on adjustments to the original list or map of town road segments. A log book of these outfalls must be kept by the Town.

(B) Stormwater Outfall Inventory and Recommended best management treatment

(1) Municipalities are required to use the available state maps of existing collected road segments, locate and visit the mapped outfalls for these segments, and assess the soil erosion between the outfall and waters of the state if the outfall is less than 500 feet from the waters. All Towns will develop a written inventory with the below information collected. Note an i-phone application has been developed that is available for use by anyone for the purpose of collecting this data. A paper form is attached.

A. Outfall ID (automatically generated for each town from the ANR outfall data
B. Segment ID of all segments draining to above connected outfall
C. Culvert diameter (inches)
D. Is outfall directly into waters of the state? (Y/N)
E. Erosion Rank
    i. Less than 1" depth is sheet erosion, **Fully Meets** MRGP standard
    ii. 1 up to just less than 12" erosion depth is considered rill erosion**, Partially Meets** MRGP standard
    iii. Equal to or greater than 12" in depth is considered gully erosion, **Does Not Meet** MRGP standards

F. Slope of Bank where outfall is located (Note: this is not the channel slope but the embankment slope)

G. Average depth (D) in feet of eroded gully below outfall (Note: value can be measured or estimated but method must be stated)
H. Length in feet (L) of Eroded gully below outfall (Note: value can be measured or estimated but method must be stated)
I. Average width in feet (W) of eroded gully below outfall (Note: value can be measured or estimated but method must be stated)
J. Cubic yards of mass of eroded material = (D x L x W)/27
K. Recommended best management practices for CB outfall stabilization include:
    i. Stone lining of eroded swale
        a.) Recommended 12-24" outfall diameter minimum 12" minus, 24-48" – minimum 24" minus[3]
    ii. Stone apron at outfall
        a.) Recommended 12-24" outfall diameter minimum 12" minus, 24-48" – minimum 24" minus[3]. For 12-24" diameter apron should be 10' long, for 24-48" diameter apron should be 14' long
    iii. Stone header to protect pipe in embankment
        a.) Recommended 12-24" outfall diameter minimum 12" minus, 24-48" – minimum 24" minus[3]
    iv. Stone Weir
        a.) Recommended 12-24" outfall diameter minimum 12" minus, 24-48" – minimum 24" minus[3]

L. Three (3) Digital photos of erosion
M. Date of repair
N. Digital photo of repair

(2) Very High Priority Paved Roads with Catch Basins are those hydrologically-connected road segments with eroded outfall erosion measured at 3 cubic yards (using formula K above). Stabilization of these gullies shall be completed by 12/31/2025.

(3) All Towns, shall stabilize the calculated required minimum number of noncompliant outfalls. Alternatively, the Town can eliminate the outfall and/or divert it to a stable conveyance. Towns will document upgrade progress in their Implementation Tables and in the Annual Reports. Annual Reports will include a list of the outfalls previously noncompliant that are now compliant due to repairs in the previous year.
Assess all connected outfalls under the operational control of the municipality.

Foot Notes

[1] If state maps don't exist use the best available information.

2If stone size is hand placed and fitted stone size a 9" minus stone is recommended.